



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

REGION 5

77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

**JAN 28 2011**

REPLY TO THE ATTENTION OF:

Melinda Holdsworth  
Senior Air Quality Specialist  
TransCanada - US Pipelines  
717 Texas Avenue, 24th Floor  
Houston, Texas 77002

Dear Ms. Holdsworth:

Enclosed please find copies of the final Air Pollution Control Title V Permit to Operate, Permit No. V-FDL-2713700066-2010-02, and Statement of Basis, which authorizes the Great Lakes Gas Transmission Limited Partnership to operate three natural gas-fired turbine/compressors and one natural gas-fired standby electrical generator located at 3741 Brandon Road in Cloquet, Minnesota. The U.S. Environmental Protection Agency did not receive any comments during the public comment period, which ended on December 15, 2010.

The permit should be posted at the facility and distributed to staff responsible for ensuring compliance with the conditions and limitations in the permit.

If you have any questions regarding this permit, please contact Genevieve Damico of my staff at 312-353-4761.

Sincerely,

A handwritten signature in black ink, appearing to read "S Hedman", is positioned above the typed name.

Susan Hedman  
Regional Administrator

Enclosures



cc: Peter J. Defoe  
Fond du Lac Band of Chippewa

Jeff Smith  
Minnesota Pollution Control Agency



United States Environmental Protection Agency  
Region 5  
Air Programs Branch  
Air & Radiation Division  
77 West Jackson Boulevard  
Chicago, Illinois 60604

**AIR POLLUTION CONTROL  
TITLE V PERMIT TO OPERATE**

Permit No.: V-FDL-2713700066-2010-02

Expiration Date: **FEB 27 2016**

Issue Date: **JAN 28 2011**

Effective Date: **FEB 27 2011**

In accordance with the provisions of Title V of the Clean Air Act and 40 C.F.R. Part 71 and applicable rules and regulations,

**Great Lakes Gas Transmission Limited Partnership**

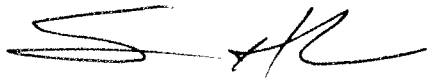
is authorized to operate air emission units and to conduct other air pollutant emitting activities in accordance with the conditions listed in this permit.

This source is authorized to operate in the following location:

**Cloquet Compressor Station No. 5  
3741 Brandon Road  
Cloquet, Minnesota 55720**

Cloquet Compressor Station No. 5 is located on privately-owned fee land within the exterior boundaries of the Fond du Lac Band of Lake Superior Chippewa Indian Reservation.

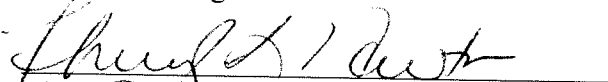
Terms and conditions not otherwise defined in this permit have the meaning assigned to them in the referenced regulations. All terms and conditions of the permit are enforceable by EPA and citizens under the Clean Air Act.



Susan Hedman, Regional Administrator  
U.S. EPA - Region 5

1/28/11

Date



Cheryl D. Newton, Director  
Air and Radiation Division  
U.S. EPA - Region 5

1/28/11

Date

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### Abbreviations and Acronyms

ASTM	American Society for Testing and Materials
CAA	Clean Air Act [42 U.S.C. § 7401, <i>et seq.</i> ]
CFR	Code of Federal Regulations
CO	Carbon Monoxide
COM	Continuous Opacity Monitor
DRE	Destruction and removal efficiency
EPA	United States Environmental Protection Agency, Region 5
EU	Emission Unit
Facility	Great Lakes Gas Cloquet Compressor Station No. 5
gal	gallon
g	grams
Great Lakes	Great Lakes Gas Transmission Limited Partnership
HAP	Hazardous Air Pollutant
hr	hour
kg	kilogram
kpa	kilo pascals
lb	pound
MACT	Maximum Achievable Control Technology
Mg	megagram
MMBtu	million British Thermal Units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO <sub>x</sub>	Nitrogen Oxides
NSPS	New Source Performance Standard
NSR	New Source Review
Operator	Great Lakes Gas Transmission Company
Permittee	Great Lakes Gas Transmission Limited Partnership
PM	Particulate Matter
PM <sub>10</sub>	Particulate matter less than 10 microns in diameter
ppm	parts per million
ppmv	parts per million by volume
PSD	Prevention of Significant Deterioration
Psi	Pounds per square inch
PTE	Potential to Emit
SO <sub>2</sub>	Sulfur Dioxide
scf	Standard Cubic Feet
VOC	Volatile Organic Compounds

## **1.0 Source Identification and Unit-Specific Information**

### **(A). General Source Information**

Parent Company: Great Lakes Gas Transmission Limited  
Partnership  
5250 Corporate Drive  
Troy, Michigan 48098

Facility: Cloquet Compressor Station No. 5  
3741 Brandon Road  
Cloquet, Minnesota 55720

County: St. Louis County

Tribe/Reservation: Fond Du Lac Band of Lake Superior Chippewa

SIC Code: 4922, Natural Gas Transmission

AFS Plant Identification Number: 27 137 00066

Description of Process: Cloquet Station No. 5 is one of the Great Lakes compressor stations located in Minnesota. Compressors operated at this station add pressure to natural gas in Great Lakes' pipeline causing it to flow to the next compressor station. Cloquet Station No. 5 is composed of three natural gas-fired turbine/compressors and one natural gas-fired standby electrical generator. The pipeline normally operates continuously, but at varying loads, 24 hours per day and 365 days per year.



**(B). Source Emission Points**

The emissions units located at the facility at the time of permit issuance are:

<b>Emission Unit</b>	<b>Description</b>	<b>Manufacturer /Model</b>	<b>Date of Construction</b>	<b>Heat Input (MMBtu/hr)</b>
EU 001	Natural Gas-fired Turbine	General Electric LM 2500	1989	251.1
EU 002	Natural Gas-fired Turbine	Rolls Royce Avon 76G	1969	166.4
EU 003	Natural Gas-fired Turbine	General Electric LM 1600	1992	184.0
EU 004	Natural Gas-fired Standby Electrical Generator	Caterpillar SR-4	1993	4.8

**2.0 UNIT-SPECIFIC OPERATING REQUIREMENTS**

**(A). Emission Limitations and Standards [40 C.F.R. § 71.6(a)(1)]**

The Permittee shall comply with the following requirements:

1. Nitrogen Oxide NSPS Limitations.

Total NO<sub>x</sub> emissions from EU 001 shall not exceed 191 ppmv at 15 percent oxygen and on a dry basis. [40 C.F.R. §60.332(a)(2) and Condition 2.0(A)(1)(i) of PSD-FDL-R50001-04-01]

2. Sulfur Dioxide NSPS Limitations.

EU 001 and EU 003 shall not burn any fuel which contains sulfur in excess of 0.8 percent by weight. [40 C.F.R. §60.333(b) and Condition 2.0(A)(2) of PSD-FDL-R50001-04-01]

3. PSD BACT Limitations

- i. NO<sub>x</sub> emissions from EU 003 shall not exceed 160 ppmv at 15 percent oxygen and on a dry basis. [Condition 2.0(A)(3)(i) of PSD-FDL-R50001-04-01]

Compliance with section Condition 2.0 (A)(3)(i), above, also will assure compliance at EU 003 with the applicable requirement from 40 C.F.R. §60.332(a)(2) and the applicable requirement from Condition 2.0(A)(1)(ii) of PSD-FDL-R50001-04-01, which provides that total NO<sub>x</sub> emissions from EU 003 shall not exceed 196 ppmv at 15 percent oxygen and on a dry basis.

- ii. Total NO<sub>x</sub> emissions from EU 003 shall not exceed 68 pounds per hour at any time during operation. [Condition 2.0(A)(3)(ii) of PSD-FDL-R50001-04-01]
- iii. Total operating hours of EU 004 shall not exceed 3,000 hours during any 12-consecutive month period. By the last day of each month the Permittee will calculate and record the number of operating hours from EU 004 for the previous calendar month and the sum of total number of operating hours from the previous calendar month plus the 11 month period previous to that month (12 month rolling sum). [Condition 2.0(A)(3)(iii) of PSD-FDL-R50001-04-01]

4. Good Air Pollution Control Practice.

- i. At all times, including start-up, shut-down, and malfunction, the Permittee shall, to the extent practicable, maintain and operate all sources, including associated air pollution control equipment, regulated by this permit in a manner consistent with good air pollution control practice for minimizing emissions. The determination of whether the Permittee is using acceptable operating and maintenance practices will be made by EPA based upon all information which is available to EPA. This may include, but is not limited to, monitoring results, review of operating and maintenance procedures, and inspections of the facility. In addition, the Permittee shall comply with paragraphs a and b, below. [40 C.F.R. § 60.11(d) and Condition 2.0(A)(4) of PSD-FDL-R50001-04-01]

- a. Develop and provide training to acquaint each facility plant operator with the applicable terms and conditions of this permit. The Permittee must maintain a log of the time, date, place, and list of attendees for each training session and a copy of the materials presented in the training sessions, and report to EPA, if requested. The records of the training shall be maintained at the

facility and available for inspection by authorized representatives of EPA.

- b. Develop and implement standard operation and maintenance procedures for each emission unit listed in this permit. Keep a copy of the procedures available at a location within the facility that is readily accessible to operators of the sources and to authorized representatives of EPA.
- ii. The Permittee must operate EU 004 according to the conditions described in paragraphs a through d, below. [40 C.F.R. § 63.6640 (f)(1) through (4)]
  - a. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year is prohibited.
  - b. There is no time limit on the use of EU 004 in emergency situations.
  - c. The Permittee may operate EU 004 for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by the federal government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that federal, State, or local standards require maintenance and testing of EU 004 beyond 100 hours per year.
  - d. The Permittee may operate EU 004 up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that the Permittee may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes

prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

**(B). Monitoring and Testing [40 C.F.R. § 71.6(a)(3)(i)(A)]**

1. The Permittee shall install and continuously operate a device to measure and record the fuel consumption in EU 001 and EU 003. [Condition 2.0(B)(1) of PSD-FDL-R50001-04-01]
2. The Permittee has elected not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, as allowed by 40 C.F.R. § 60.334(h)(3). The Permittee must demonstrate that the gaseous fuel meets the definition of natural gas in § 60.331(u). The Permittee shall make this demonstration through the use of gas quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less.
3. Performance Testing: [40 C.F.R. §§ 60.335, 60.8, 71.6(a)(3)(I)(A); Condition 2.0(B)(4) of PSD-FDL-R50001-04-01]
  - i. The Permittee shall perform periodic performance testing for NO<sub>x</sub> for EU 001 and EU 003 every five calendar years, on or about the anniversary date of the initial compliance tests.
  - ii. As required in this permit or upon an additional request by EPA, the Permittee shall conduct performance tests for NO<sub>x</sub> for EU 001 and EU 003 using as reference methods and procedures the test methods in appendix A of 40 C.F.R. Part 60 and the methods and procedures in Condition 2.0 (B)(3)(iii) and (iv) of this permit.
  - iii. The Permittee shall determine compliance with the applicable NO<sub>x</sub> emission limitation in 40 C.F.R. § 60.332 and shall meet the performance test requirements of 40 C.F.R. § 60.8 as follows: [40 C.F.R. § 60.335(b)]

For each run of the performance test, the mean nitrogen oxides emission concentration (NO<sub>x o</sub>) corrected to 15 percent O<sub>2</sub> shall be corrected to ISO standard conditions using the following equation.

$$NO_x = (NO_{x_o})(P_r/P_o)^{0.5} e^{19(H_o - 0.00633)(288^\circ K/T_a)^{1.53}}$$

Where:

$NO_x$  = emission concentration of  $NO_x$  at 15 percent  $O_2$  and ISO standard ambient conditions, ppm by volume, dry basis,

$NO_{x_o}$  = mean observed  $NO_x$  concentration, ppm by volume, dry basis, at 15 percent  $O_2$ ,

$P_r$  = reference combustor inlet absolute pressure at 101.3 kilopascals ambient pressure, mm Hg,

$P_o$  = observed combustor inlet absolute pressure at test, mm Hg,

$H_o$  = observed humidity of ambient air, g  $H_2O$ /g air,

$e$  = transcendental constant, 2.718, and

$T_a$  = ambient temperature,  $^\circ K$ .

- iv. (a) The owner or operator shall conduct the performance tests required in 40 C.F.R. § 60.8, using either:
- (1) EPA Method 20,
  - (2) ASTM D6522-00 (see 40 C.F.R. § 60.17), or
  - (3) EPA Method 7E and either EPA Method 3 or 3A in appendix A to 40 C.F.R. Part 60, to determine  $NO_x$  and diluent concentration.
  - (4) Sampling traverse points are to be selected following Method 20 or Method 1, (non-particulate procedures) and sampled for equal time intervals. The sampling shall be performed with a traversing single-hole probe or, if feasible, with a stationary multi-hole probe that samples each of the points sequentially. Alternatively, a multi-hole probe designed and documented to sample equal volumes from each hole may be used to sample simultaneously at the required points.
  - (5) Notwithstanding Condition 2.0(B)(3)(iv)(a)(4) of this section, the Permittee may test at fewer points than are specified in Method 1 or Method 20 if the following conditions are met:

- i. The Permittee performs a stratification test for NO<sub>x</sub> and diluent pursuant to the procedures specified in section 6.5.6.1(a) through (e) of appendix A to 40 C.F.R. Part 75.
- ii. Once the stratification sampling is completed, the Permittee uses the following alternative sample point selection criteria for the performance test:
  - (A) If each of the individual traverse point NO<sub>x</sub> concentrations, normalized to 15 percent O<sub>2</sub>, is within  $\pm 10$  percent of the mean normalized concentration for all traverse points, then you may use 3 points (located either 16.7, 50.0, and 83.3 percent of the way across the stack or duct, or, for circular stacks or ducts greater than 2.4 meters (7.8 feet) in diameter, at 0.4, 1.2, and 2.0 meters from the wall). The 3 points shall be located along the measurement line that exhibited the highest average normalized NO<sub>x</sub> concentration during the stratification test; or
  - (B) If each of the individual traverse point NO<sub>x</sub> concentrations, normalized to 15 percent O<sub>2</sub>, is within  $\pm 5$  percent of the mean normalized concentration for all traverse points, then you may sample at a single point, located at least 1 meter from the stack wall or at the stack centroid.

(b) The 3-run performance test required by 40 C.F.R. § 60.8 must be performed within  $\pm 5$  percent at 30, 50, 75, and 90-to-100 percent of peak load or at four evenly-spaced load points in the normal operating range of the gas turbine, including the minimum point in the operating range and 90-to-100 percent of peak load, or at the highest achievable load point if 90-to-100 percent of peak load cannot be physically achieved in practice. Notwithstanding these requirements, performance testing is not required for any emergency fuel (as defined in section 60.331).

(c) The Permittee may use the following as an alternative to the methods and procedures of this section: instead of using the equation in permit Condition 2.0 (B)(3)(iii), the manufacturer may develop ambient condition correction factors to adjust the nitrogen oxides emission level measured by the performance test as provided in section 60.8 to ISO standard day conditions.

**(C). Recordkeeping and Reporting [PSD-FDL-R50001-04-01, 40 C.F.R. §§ 71.6(a)(3), 60.7 and 60.8]**

1. The Permittee shall maintain the following records:

- i. Fuel usage and operating hours of EU 003 in accordance with the approved EU003 Monitoring Plan;
- ii. Pounds per hour of NO<sub>x</sub> and pollutant emission rates (ppm at 15% O<sub>2</sub> on a dry basis calculated from hours and fuel use and the most recent approved performance test;
- iii. The results of all performance tests performed in accordance with this permit;
- iv. All training records required in accordance with this permit;
- v. Standard Operation and Maintenance Procedures for each emission unit;
- vi. EPA-approved EU 003 NO<sub>x</sub> monitoring plan for determining NO<sub>x</sub> mass emissions from EU 003;
- vii. By the last day of each month the Permittee will calculate and record the number of operating hours from EU 004 for the previous calendar month and the number of operating hours the previous 11 month period (12 month rolling sum); and
- viii. Records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility; any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative.

The Permittee shall maintain a file of all measurements, including continuous monitoring system, monitoring device, and performance testing measurements; all continuous monitoring system performance evaluations; all continuous monitoring system or monitoring device calibration checks; adjustments and maintenance performed on these systems or devices; and all other information required by this part recorded in a permanent form suitable for inspection. The file shall be retained for at least two years following the date of such measurements, maintenance, reports, and records. [40 C.F.R. §60.7(f)]

2. The Permittee shall notify EPA:

- i. Of any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to which a standard applies, unless that change is specifically exempted. This notice shall be postmarked 60 days or as soon as practicable before the change is commenced and shall include information describing the precise nature of the change, present and proposed emission control systems, productive capacity of the facility before and after the change, and the expected

completion date of the change. The Administrator may request additional relevant information subsequent to this notice.

- ii. The Permittee shall furnish EPA written notification of any change to Section 8 (Quality) of the Permittee's Federal Energy Regulatory Commission Gas Tariff.
- iii. The Permittee shall notify EPA of any performance testing at least 30 days prior to the planned test date. If after 30 days notice for a scheduled performance test, there is a delay (due to operational problems, etc.) in conducting the scheduled performance test, the Permittee shall notify EPA as soon as possible, either by providing at least 7 days prior notice of the rescheduled date of the performance test or by arranging a reschedule date with the EPA by mutual agreement.

### **3.0 FACILITY-WIDE PERMIT REQUIREMENTS**

#### **(A). General Part 71 Recordkeeping [40 C.F.R. § 71.6(a)(3)(ii)].**

1. The Permittee shall keep records of required monitoring information that include the following:
  - i. The date, place, and time of sampling or measurements;
  - ii. The date(s) analyses were performed;
  - iii. The company or entity that performed the analyses;
  - iv. The analytical techniques or methods used;
  - v. The results of such analyses; and
  - vi. The operating conditions existing at the time of sampling or measurement.
2. The Permittee shall retain records of all required monitoring data and support information for a period of at least 5 calendar years from the date of the monitoring sample, measurement, report, or application. Support information includes, but is not limited to, all calibration and maintenance records, all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

#### **(B). General Part 71 Reporting [40 C.F.R. § 71.6(a)(3)(iii)].**

1. The Permittee shall submit to EPA semi-annual reports of all required monitoring for each 6 month reporting period from January 1 to June 30



and from July 1 to December 31, except that the first reporting period shall begin on the effective date of this permit and end on December 31. All reports shall be submitted to the EPA and shall be postmarked by the 30th day following the end of the reporting period. All instances of deviations from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with Condition 4.0(H)(1) of this permit. [40 C.F.R. § 71.6(a)(3)(iii)(A)].

- i. A monitoring report under this section must include the following:
  - (a). The company name and address;
  - (b). The beginning and ending dates of the reporting period;
  - (c). The emissions unit or activity being monitored;
  - (d). The emissions limitation or standard, including operational requirements and limitations (such as parameter ranges), specified in the permit for which compliance is being monitored;
  - (e). All instances of deviations from permit requirements whether demonstrated by referenced test method, monitoring, or through any other credible evidence, including those attributable to upset conditions as defined in this permit, and the date on which each deviation occurred;
  - (f). The total time when monitoring required by this permit was not performed during the reporting period and, at the source's discretion, either the total duration of deviations indicated by such monitoring or the actual records of deviations;
  - (g). All other monitoring results, data, or analyses required to be reported by the applicable requirement;
  - (h). The name, title, and signature of the responsible official who is certifying to the truth, accuracy, and completeness of the report.
- ii. Any report required by an applicable requirement that provides the same information described in Condition 3.0(B)(1)(i)(a) through (h), above, shall satisfy the requirement under Condition 3.0 (B)(1).

iii. "Deviation" means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined by observation or through review of data obtained from any testing, monitoring, or record keeping established in accordance with 40 C.F.R. § 71.6(a)(3)(i) and (ii). For a situation lasting more than 24 hours, each 24-hour period is considered a separate deviation. "Deviation" includes, but is not limited to, any of the following: [40 C.F.R. § 71.6(a)(3)(iii)(C)]

- (a). A situation when emissions exceed an emission limitation or standard;
- (b). A situation where process or emissions control device parameter values indicate that an emission limitation or standard has not been met; and
- (c). A situation in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.

2. The Permittee shall promptly report to the EPA deviations from permit requirements, including those attributed to malfunction, emergency or other upset conditions, the probable cause of such deviations, and any corrective actions or preventive measures taken. "Prompt" is defined as follows: [40 C.F.R. § 71.6(a)(3)(iii)(B)]

- i. Any definition of "prompt" or specific timeframe for reporting deviations provided in an underlying applicable requirement (as identified in this permit); or
- ii. Where the underlying applicable requirement does not define prompt or provide a timeframe for reporting deviations, reports of deviations will be submitted based on the following schedule:
  - (a). For emissions of a hazardous air pollutant or a toxic air pollutant(as identified in an applicable regulation) that continue for more than an hour in excess of permit requirements, the report must be made within 24 hours of the occurrence.
  - (b). For emissions of any regulated pollutant excluding a hazardous air pollutant or a toxic air pollutant that continue for more than two hours in excess of permit requirements, the report must be made within 48 hours.

- (c). For all other deviations from permit requirements, the report shall be submitted with the semi-annual monitoring report required in Condition 3.0 (B)(1) of this section.
- 3. If any of the conditions in Condition 3.0(B)(2)(ii)(a) through (c) above are met, the Permittee must notify EPA by telephone or facsimile based on the timetable listed in those subparagraphs. In addition, the Permittee must submit a written notice, certified consistent with Condition 4.0(H)(1), within 10 working days of the occurrence. All deviations reported under this section must also be identified in the 6-month report required under Condition 3.0 (B)(1) of this section.

**(C). Performance Testing [40 C.F.R. § 71.6(a)(3)(i) and 40 C.F.R. § 60.8]**

- 1. Within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup, or at such other times as specified by 40 C.F.R. § 60.8, and at such other times as may be required by EPA under section 114 of the CAA, the owner or operator of such facility shall conduct performance test(s) and furnish EPA a written report of the results of such performance test(s).
- 2. Performance tests shall be conducted under such conditions as EPA shall specify to the permittee based on representative performance of the affected facility. The permittee shall make available to EPA such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard.
- 3. The Permittee shall provide performance testing facilities that include the following:
  - i. Sampling ports adequate for the applicable test methods;
  - ii. Safe sampling platform(s);
  - iii. Safe access to sampling platform(s); and
  - iv. Utilities for sampling and testing equipment.

#### **4.0 PART 71 GENERAL REQUIREMENTS**

##### **(A). Definitions [40 C.F.R. § 71.2]**

Terms have the meaning assigned to them in 40 C.F.R. part 71 unless otherwise provided in this permit.

##### **(B). Annual Fee Payment [40 C.F.R. §§ 71.6(a)(7) and 71.9]**

1. The Permittee shall pay an annual permit fee in accordance with the procedures outlined below.
2. The Permittee shall prepare an annual report of its actual emissions for the preceding calendar year and a fee calculation work sheet (based on the report) each year. The Permittee shall submit the annual report and pay the entire annual permit fee each year, as outlined below, on or before November 15th of each year.

The Permittee shall submit the annual report, the fee calculation worksheet, and a photocopy of the fee payment check (or other confirmation of actual fee paid) to:

**Air Permits Section (AR-18J)  
Air and Radiation Division  
EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604**

3. The fee payment shall be in United States currency and shall be paid by money order, bank draft, certified check, corporate check, or electronic funds transfer payable to the order of the U.S. Environmental Protection Agency.
4. The Permittee shall send fee payment and a completed fee filing form to:  
For Regular U.S. Postal Service Mail

**US Environmental Protection Agency  
FOIA and Miscellaneous Payments  
Cincinnati Finance Center  
PO Box 979078  
St. Louis, MO 63197-9000**

For non-U.S. Postal Service Express Mail

**(Fed Ex, Airborne, DHL, USPS)  
U.S. Bank  
Government Lockbox 979078  
U.S. EPA FOIA & Misc. Payments  
1005 Convention Plaza  
SL-MO-C2-GL  
St. Louis, MO 63101**

5. The Permittee shall send an updated fee calculation worksheet form and a photocopy of each fee payment check (or other confirmation of actual fee paid) submitted annually by the same deadline as required for fee payment to the address listed in Condition 4.0(H)(2) of this permit. (The Permittee should note that an annual emissions report, required at the same time as the fee calculation worksheet by 40 C.F.R. § 71.9(h), has been incorporated into the fee calculation worksheet form as a convenience.)
6. Basis for calculating annual fee:
  - i. The annual emissions fee shall be calculated by multiplying the total tons of actual emissions of all regulated pollutants (for fee calculation) emitted from the source, including fugitive emissions by the presumptive emissions fee (in dollars/ton) in effect at the time of calculation.
    - (a). “Actual emissions” means the ‘actual rate of emissions in tpy [tons per year] of any regulated pollutant (for fee calculation) emitted from a part 71 source over the preceding calendar year. Actual emissions shall be calculated using each emissions unit’s actual operating hours, production rates, in-place control equipment, and types of materials processed, stored, or combusted during the preceding calendar year.’ [40 C.F.R. § 71.9(c)(6)].
    - (b). Actual emissions shall be computed using methods required by the permit for determining compliance, such as monitoring or source testing data. [40 C.F.R. § 71.9(h)(3)].
    - (c). If actual emissions cannot be determined using the compliance methods in the permit, the Permittee shall use other federally recognized procedures. [40 C.F.R. § 71.9(e)(2)].
    - (d). The term “regulated pollutant (for fee calculation)” is defined in 40 C.F.R. § 71.2.

- (e). The Permittee shall calculate the amount of fees based upon EPA's most recent presumptive fee amount.
- ii. The Permittee shall exclude the following emissions from the calculation of fees:
  - (a). The amount of actual emissions of each regulated pollutant (for fee calculation) that the source emits in excess of 4,000 tpy [40 C.F.R. § 71.9(c)(5)(I)];
  - (b). Actual emissions of any regulated pollutant (for fee calculation) already included in the fee calculation [40 C.F.R. § 71.9(c)(5)(ii)]; and
  - (c). Insignificant quantities of actual emissions not required to be listed or calculated in a permit application pursuant to 40 C.F.R. § 71.5(c)(11). [40 C.F.R. § 71.9(c)(5)(iii)].
- 7. A responsible official must certify the fee calculation worksheet and annual report as to truth, accuracy, and completeness in accordance with Condition 4.0(H)(1). (The Permittee should note that the fee calculation worksheet incorporates a section to help meet this responsibility.)
- 8. The Permittee shall retain fee calculation worksheets and other emissions-related data used to determine fee payment for 5 years following submittal of fee payment. Emission-related data include, for example, emissions-related forms provided by the EPA and used by the Permittee for fee calculation purposes, emissions-related spreadsheets, and emissions-related data, such as records of emissions monitoring data and related support information required to be kept in accordance with 40 C.F.R. § 71.6(a)(3)(ii). [40 C.F.R. § 71.9(i)]
- 9. Failure of the Permittee to pay fees in a timely manner shall subject the Permittee to assessment of penalties and interest in accordance with 40 C.F.R. § 71.9(l).
- 10. When notified by the EPA of underpayment of fees, the Permittee shall remit full payment within 30 days of receipt of notification. [40 C.F.R. § 71.9(j)(1) and (2)].
- 11. A Permittee who believes that the EPA assessed fee is in error and who wishes to challenge such fee shall provide a written explanation of the alleged error to the EPA along with full payment of the EPA assessed fee. [40 C.F.R. § 71.9(j)(3)].

**(C). Compliance Statement [40 C.F.R. § 71.6(a)(6)].**

1. The Permittee must comply with all conditions of this part 71 permit. Any noncompliance with this permit constitutes a violation of the CAA and is grounds for: [40 C.F.R. § 71.6(a)(6)(I)]
  - i. Enforcement action;
  - ii. Permit termination, revocation and reissuance, or modification; or
  - iii. Denial of a permit renewal application.
2. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 C.F.R. § 71.6(a)(6)(ii)].

**(D). Compliance Certifications [40 C.F.R. § 71.6(c)(5)].**

1. The Permittee shall submit to EPA a certification of compliance with all permit terms and conditions, including emission limitations, standards, or work practices, each calendar year for the reporting period from January 1 to December 31, except the first reporting period shall begin on the effective date of this permit and end on December 31. All reports shall be submitted to the EPA and shall be postmarked by the 30<sup>th</sup> day following the end of the reporting period. The compliance certification shall be certified as to truth, accuracy, and completeness by a responsible official in accordance with Condition 4.0(H)(1) of this permit. The certification shall include the following:
  - i. Identification of each permit term or condition that is the basis of the certification;
  - ii. Identification of the method(s) or other means used for determining the compliance status of each term and condition during the certification period, and whether such methods or other means provide continuous or intermittent data. If necessary, the Permittee also shall identify any other material information that must be included in the certification to comply with section 113(c)(2) of the CAA, which prohibits knowingly making a false certification or omitting material information;
  - iii. The compliance status of each term and condition of the permit, including whether monitoring data is continuous and whether that data or any other credible evidence shows the compliance is

continuous. The certification shall identify each deviation and take it into account in the compliance certification; and

- iv. A statement indicating the compliance status of the source with any applicable enhanced monitoring and compliance certification requirements of the CAA.

**(E). Schedule of Compliance [40 C.F.R. §§ 71.6(c)(3) and 71.5(c)(8)(iii)].**

1. For applicable requirements with which the Permittee is in compliance, the Permittee will continue to comply with such requirements.
2. For applicable requirements that will become effective during the permit term, the Permittee shall meet such requirements on a timely basis.

**(F). Duty to Provide and Supplement Information [40 C.F.R. §§ 71.6(a)(6)(v) and 71.5(b)].**

1. The Permittee shall furnish to the EPA, within a reasonable time, any information that the EPA may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. Upon request, the Permittee shall also furnish to EPA copies of records that are required to be kept pursuant to the terms of this permit, including information claimed to be confidential. Information claimed to be confidential should be accompanied by a claim of confidentiality according to the provisions of 40 C.F.R. part 2, subpart B.
2. The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information. The Permittee shall also provide additional information as necessary to address any requirements that become applicable to the facility after this permit is issued.

**(G). Enforceability [40 C.F.R. § 71.6(b)].**

All terms and conditions in this permit, including any provisions designated to limit the source's potential to emit, are enforceable by the EPA and citizens in accordance with the CAA.

**(H). Submissions [40 C.F.R. §§ 71.5(d), 71.6 and 71.9].**

1. A responsible official of the Permittee shall certify as to the truth, accuracy, and completeness of any document required to be submitted by this permit. Such certifications shall state that based on information and



belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. Except as otherwise noted, the Permittee shall submit all documents required to be submitted by this permit to:

**Air Enforcement and Compliance  
Assurance Branch (AE-17J)  
Air and Radiation Division  
EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604**

2. The Permittee shall submit permit applications, applications for permit amendments, and other applicable permit information, which includes but is not limited to installation of control equipment, replacement of an emissions unit, fee calculation worksheets, and applications for renewals and permit modifications, to:

**Air Permits Section  
Air Programs Branch (AR-18J)  
EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604**

**(I). Severability Clause [40 C.F.R. § 71.6(a)(5)].**

The provisions of this permit are severable, and in the event of any challenge to any portion of this permit, or if any portion is held invalid, the remaining permit conditions shall remain valid and in force.

**(J). Permit Actions [40 C.F.R. § 71.6(a)(6)(iii)].**

This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**(K). Administrative Permit Amendments**

The Permittee may request the use of administrative permit amendment procedures for a permit revision in accordance with 40 C.F.R. § 71.7(d).

**(L). Minor Permit Modifications**

The Permittee may request the use of minor permit modification procedures for those modifications that meet the requirements contained in 40 C.F.R. § 71.7(e)(1).

**(M). Significant Permit Modifications**

The Permittee must request the use of significant permit modification procedures for those modifications that meet the requirements contained in 40 C.F.R. § 71.7(e)(3).

**(N). Reopening for Cause [40 C.F.R. § 71.7(f)].**

The EPA shall reopen and revise the permit prior to expiration under any of the following circumstances:

1. Additional applicable requirements under the CAA become applicable to this source if the remaining permit term is 3 or more years.
2. The EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
3. The EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

**(O). Property Rights [40 C.F.R. § 71.6(a)(6)(iv)].**

This permit does not convey any property rights of any sort, or any exclusive privilege.

**(P). Inspection and Entry [40 C.F.R. § 71.6(c)(2)].**

Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow EPA or an authorized representative to perform the following as authorized by the CAA:

1. Enter upon the Permittee's premises where the part 71 source is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

**(Q). Emergency Provisions [40 C.F.R. § 71.6(g)].**

1. In addition to any emergency or upset provision contained in any applicable requirement, the Permittee may seek to establish that noncompliance with a technology-based emission limitation under this permit was due to an emergency. To do so, the Permittee shall demonstrate the affirmative defense of emergency through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - i. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
  - ii. The permitted facility was at the time being properly operated;
  - iii. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards, or other requirements in this permit; and
  - iv. The Permittee submitted notice of the emergency to EPA within 2 working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. This notice fulfills the requirements of Condition 3.0(B)(2) of this permit, concerning prompt notification of deviations.
2. In any enforcement proceeding, the Permittee attempting to establish the occurrence of an emergency has the burden of proof.
3. An “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.

**(R). Off-Permit Changes [40 C.F.R. § 71.6(a)(12)].**

1. The Permittee is allowed to make certain changes without a permit revision, provided that the following requirements are met:
  - i. Each change is not addressed or prohibited by this permit;
  - ii. Each change complies with all applicable requirements and does not violate any existing permit term or condition;
  - iii. Changes under this provision may not include changes subject to any requirement of 40 C.F.R. parts 72 through 78 or modifications under any provision of Title I of the CAA;
  - iv. The Permittee must provide contemporaneous written notice to EPA of each change, except for changes that qualify as insignificant activities under 40 C.F.R. § 71.5(c)(11). The written notice must describe each change, the date of the change, any change in emissions, pollutants emitted, and any applicable requirements that would apply as a result of the change; and  
  
The permit shield does not apply to changes made under this provision;
  - v. The Permittee must keep a record describing all changes that result in emissions of any regulated air pollutant subject to any applicable requirement not otherwise regulated under this permit, and the emissions resulting from those changes.

**(S). Permit Expiration and Renewal [40 C.F.R. §§ 71.5(a)(1)(iii), 71.6(a)(11), 71.7(b), 71.7(c)(1)(i) and (ii), 71.8(d)].**

1. Except as provided in Condition 4.0(S)(3), below, this permit shall expire five years from the effective date.
2. Expiration of this permit terminates the Permittee's right to operate unless the Permittee has submitted a timely and complete permit renewal application to the permitting authority at least 6 calendar months, but not more than 18 calendar months, prior to the date of expiration of this permit.
3. If the Permittee submits a timely and complete permit application for renewal, consistent with 40 C.F.R. § 71.5(a)(1) and (2) and Condition 4.0(S)(2), above, this permit shall not expire until EPA has issued or denied a renewal permit. Any permit shield granted under Condition

4.0(U) of this permit may be extended during the period that the permitting authority fails to act on the renewal application.

4. If the Permittee has submitted a timely and complete application for renewal consistent with 40 C.F.R. § 71.5(a)(1) and (2) and Condition 4.0(S)(2), above, the Permittee's failure to have a part 71 permit is not a violation of part 71 or the CAA until EPA takes final action on the permit renewal application. This protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit any additional information identified as being needed to process the application by the deadline specified in writing by EPA.
5. Renewal of this permit is subject to the same procedural requirements that apply to initial permit issuance, including those for public participation and affected state and tribal review.
6. The application for renewal shall include the current permit number, description of permit revisions and off-permit changes that occurred during the permit term, any applicable requirements that were promulgated and not incorporated into the permit during the permit term, and other information required by the application form.

**(T). Operational Flexibility [40 C.F.R. § 71.6(a)(13)].**

The Permittee may make changes within the permitted facility without a permit revision, including the addition of a new generator or replacement of an existing generator, provided the following conditions are met:

1. The changes are not modifications under any provision of Title I of the CAA;
2. The changes do not exceed the emissions allowed under this permit (whether expressed therein as a rate of emissions or in terms of total emissions); and
3. The Permittee notifies the EPA at least 7 days in advance of the proposed changes. The written notification shall include a brief description of the change within the permitted facility, the date on which the change will occur, any change in emissions, and any permit term or condition that is no longer applicable as a result of the change.
4. The permit shield does not apply to any changes made pursuant to this subpart.

**(U). Permit Shield [40 C.F.R. § 71.6(f)].**

1.
  - i. Except as noted in Condition 4.0(U)(1)(ii), below, compliance with the conditions of this permit shall be deemed compliance, as of the date of permit issuance, with any applicable requirements that are specifically identified and included in this permit or that are specifically identified in this permit as not applying to the facility.
  - ii. The permit shield shall not apply, and compliance with this permit shall not be deemed to be compliance with, parts C and D of Title I of the CAA or federal regulations that govern the permitting of major modifications to sources of air emissions.
2. Nothing in this permit shall alter or affect the following:
  - i. The liability of the Permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  - ii. The ability of EPA to obtain information under Section 114 of the CAA;
  - iii. The applicable requirements of the acid rain program, consistent with section 408(a) of the CAA; or
  - iv. The provisions of Section 303 of the CAA (emergency orders), including the authority of the Administrator under that section.

**(V). Credible Evidence [62 Fed. Reg. 8314 (February 24, 1997); 42 U.S.C. § 7413].**

Notwithstanding the conditions of this permit specifying compliance practices for applicable requirements, any person (including the Permittee) may also use other credible evidence to establish compliance or noncompliance with applicable requirements.

STATEMENT OF BASIS  
Air Pollution Control  
Title V Permit to Operate  
Permit No. V-LL-2706100011-2010-02

The purpose of this document is to set forth the legal and factual bases for permit conditions, including references to applicable provisions of the Clean Air Act (CAA or Act) and implementing regulations. This document also gives the derivation of conditions as required by 40 C.F.R. § 71.11(b).

**1. GENERAL INFORMATION**

**(A) Applicant and Stationary Source Information**

Owner	Facility (SIC Code: 4922)
Great Lakes Gas Transmission Limited Partnership 5250 Corporate Drive Troy, Michigan 48908	Cloquet Compressor Station No. 5 3741 Brandon Road Cloquet, Minnesota 55720 St. Louis County

Responsible Official	Facility Contact
Anthony Kornaga (248) 205-7465	Melinda Holdsworth (832) 320 - 5665

**(B) Facility Description**

Great Lakes Gas Transmission Limited Partnership (Great Lakes) operates nearly 2,000 miles of large diameter underground pipeline, which transports natural gas for delivery to customers in the mid-western and northeastern United States and eastern Canada. The Great Lakes pipeline system, and other interstate natural gas transmission pipelines, make up the long-distance link between natural gas production fields, local distribution companies, and end users. The pipeline's 14 compressor stations, located approximately 75 miles apart, operate to keep natural gas moving through the system. Compressors operated at these stations add pressure to natural gas in the pipeline causing it to flow to the next compressor station. The pipeline normally operates continuously, but at varying load, 24 hours per day and 365 days per year.

The Cloquet Compressor Station No. 5 (CS #5) is located 17 miles west of Cloquet, near the intersection of county roads 847 and 851, on privately-owned fee land within the exterior boundaries of the Fond du Lac Band of Lake Superior Chippewa Indian Reservation in St. Louis County, Minnesota. The facility property occupies an area of approximately 20 acres and is owned by Great Lakes. The compressor station consists of three stationary natural gas-fired turbines, which in turn drive three natural gas compressors. Additionally, one natural gas-fired standby electrical generator provides electrical power for critical operations during temporary electrical power outages and during peak loading.

### **(C) Area Classification**

CS #5 is located on privately-owned fee land within the exterior boundaries of the Fond du Lac Band of Lake Superior Chippewa Indian Reservation. The EPA is responsible for issuing and enforcing any air quality permits for the source until such time that the Tribe or State has EPA approval to do so.

St. Louis County, and all Indian Country within St. Louis County, is designated attainment for all criteria pollutants. CS #5 is within 25 miles of the state of Wisconsin. There are no PSD Class I areas within 100 kilometers of CS #5.

### **(D) Major Source Status**

CS #5 requires a Title V permit because it has the potential to emit more than 100 tons per year of nitrogen oxide and carbon monoxide.

### **(E) Enforcement Issues and Permit Shield**

The EPA is not aware of any pending enforcement issues at this facility.

### **(F) Permit History**

In the late 1990s, Region 5 reviewed the status of sources located in Indian Country. During this review it was determined that, because CS #5 is located in Indian Country and not within Minnesota state jurisdiction, construction permits for modifications (and corresponding operating permits) were erroneously issued by the Minnesota Pollution Control Agency (MPCA). On June 30, 2005, EPA issued a Title V operating permit in accordance with 40 C.F.R. Part 71 to correct this oversight and issue Great Lakes a valid Title V operating permit. That Part 71 operating permit included the federal regulations applicable to the facility and did not reference or incorporate any permit issued by the State of Minnesota.

Although the permits issued by MPCA are not considered valid permits, these permits have been listed below for reference and informational purposes:

- In 1989, MPCA issued permit No. 365-89-OT-1 allowing the replacement of an existing gas fired compression turbine, unit 1, with the installation of new emission unit (EU) 001, and the operation of existing EU 002. Based on the capacity and installation date of EU 001, it is subject to NSPS.
- In 1992, MPCA issued a modification to permit No. 365-89-OT-1 (Amendment No. 1) allowing the construction of a new emission unit, EU 003. Based on the capacity and construction date of EU 003, it was determined that the unit was



subject to NSPS, and was also required to go through the PSD permitting process (including a Best Available Control Technology (BACT) analysis).

- In 1994, MPCA issued another modification to permit No. 365-89-OT-1 (Amendment No. 2) adopting a custom fuel sampling schedule as allowed under the NSPS and approved by EPA.
- In 1993, a natural gas-fired standby generator (EU 004) was installed to replace the original generator installed in 1968. Great Lakes accepted an operational limit of 4,500 hours per year to keep the net emissions increase from this replacement below the PSD significant emission threshold.
- In 1998, MPCA issued a combined Part 70 operating permit/NSR facility wide permit (No. 13700066-001). The facility was required to complete computer dispersion modeling to demonstrate compliance with the NO<sub>x</sub> increment consumption by applicable emission units since the minor source baseline date in St. Louis County was triggered. The modeling determined that operation of the electrical generator less than 3,000 hours per year would prevent an exceedance of the allowable increment. The 3,000 hours per year limit for EU 004 was incorporated into the Part 70 MPCA permit.

Great Lakes submitted a Title V permit application to renew its 2005 Title V operating permit for CS # 5 to EPA on November 23, 2009. EPA is issuing this draft Part 71 permit based on the 2009 application.

## **2. PROCESS DESCRIPTION AND EMISSIONS**

Cloquet Station No. 5 is one of the Great Lakes compressor stations located in Minnesota. Compressors operated at these stations add pressure to natural gas in Great Lakes' pipeline causing it to flow to the next compressor station. Cloquet Station No. 5 is composed of three natural gas-fired turbine/compressors and one natural gas-fired standby electrical generator. The pipeline normally operates continuously, but at varying loads, 24 hours per day and 365 days per year.

### **(A) Emission Unit Summary**

<b>Emission Unit</b>	<b>Description</b>	<b>Manufacturer /Model</b>	<b>Date of Construction</b>	<b>Heat Input (MMbtu/hr)</b>
EU 001	Natural Gas-fired Turbine	General Electric LM 2500	1989	251.1
EU 002	Natural Gas-fired Turbine	Rolls Royce Avon 76G	1969	166.4

EU 003	Natural Gas-fired Turbine	General Electric LM 1600	1992	184.0
EU 004	Natural Gas-fired Standby Electrical Generator	Caterpillar SR-4	1993	4.8

**(B) Insignificant Activities**

Unit/Activity	Basis
3 Space heaters	40 C.F.R. § 71.5(c) (11) (i) (D)
1 Diesel storage tank (400 gallons)	40 C.F.R. § 71.5(c) (11) (ii) (A)
Natural-gas fired boiler (4.2 MMBtu/hr)	40 C.F.R. § 71.5(c) (11) (i) (D)
Parts cleaning (10 gallons/year)	40 C.F.R. § 71.5(c) (11) (ii) (A)

**(C) Potential Emissions**

EPA prepared the following tables by calculating emission factors for the turbines for nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and volatile organic compounds (VOC) from performance tests performed at the facility in November and December of 2005. EPA used the maximum ambient horsepower rating (HP) for each unit when calculating potential to emit (PTE) for the system.

Emission Factors (lb/MMBtu)								
EU	Unit	PM	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Pb	Total HAPs
001	Turbine	0.0066 <sup>a</sup>	0.0032 <sup>a</sup>	0.486 <sup>d</sup>	0.031 <sup>d</sup>	0.0021 <sup>a</sup>	ND	0.00103 <sup>a</sup>
002	Turbine	0.0066 <sup>a</sup>	0.0032 <sup>a</sup>	0.242 <sup>d</sup>	0.751 <sup>d</sup>	0.0021 <sup>a</sup>	ND	0.00103 <sup>a</sup>
003	Turbine	0.0066 <sup>a</sup>	0.0032 <sup>a</sup>	NA	0.012 <sup>d</sup>	0.0021 <sup>a</sup>	ND	0.00103 <sup>a</sup>
004	Generator	0.0483 <sup>b</sup>	0.000588 <sup>b</sup>	0.574 <sup>c</sup>	0.317 <sup>b</sup>	0.118 <sup>b</sup>	ND	0.097 <sup>b</sup>

<sup>a</sup> From EPA AP-42, Tables 3.1-1, 3.1-2a and 3.1-3, Chapter 3.1 for stationary gas turbines, published April 2000. Percent sulfur in pipeline quality natural gas defined by note h.

<sup>b</sup> From EPA AP-42, Table 3.2-1, Chapter 3.2 for gas-fired reciprocating engines, published July 2000.

<sup>c</sup> Based on manufacturer's specifications.

<sup>d</sup> From November and December 2005 performance test.

ND No Data

NA Not Applicable

<b>Potential to Emit Summary (tons per year)</b>								
EU	Unit	PM	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Lead	Total HAPs
001	Turbine	7.3	3.5	535	34	2.3	ND	1.13
002	Turbine	4.8	2.3	176	547	1.5	ND	0.751
003	Turbine	5.3	2.6	297.8 <sup>a</sup>	9.7	1.7	ND	0.830
004	Generator	1.0	0.01	12.1	6.66	2.5	ND	2.0
Total Potential Emissions		18.4	8.41	1021	597	8.0	ND	4.71

a For unit EU 003, NO<sub>x</sub> potential to emit is calculated based on the BACT limit of 68 pounds/hour and 8,760 hours per year of operation.

ND No Data

PTE Calculations:

PTE = Emission Factor x Maximum Designed Heat Input x Operational limitations

Example for EU 001: 251.1 MMBtu/hr

Particulate matter (PM): 0.0066 lb/MMBtu \* 251.1 MMBtu/hr \* 8760 hr/yr \*  
0.0005 ton/lb = 7.25 tpy

#### **(D) Actual Emissions**

The following is based the facility's 2008 emission estimates.

<b>Actual Emissions Summary (tons per year)</b>								
EU	Unit	PM-10	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC	Lead	Total HAPs
001	Turbine	3.5	0.4	257.1	16.4	1.1	0.0	0.54
002	Turbine	1.6	0.2	60.2	186.9	0.5	0.0	0.26
003	Turbine	2.5	0.3	178.2	4.6	0.8	0.0	0.39
004	Generator	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Actual Emissions		7.6	0.9	495.5	207.9	2.4	0.0	1.19

### **3. APPLICABLE REQUIREMENTS**

#### **(A) Title V Operation Permitting**

In accordance with 40 C.F.R. § 71.3(a) (1), all major stationary sources are required to obtain a Title V operating permit. "Major source" is defined in 40 C.F.R. § 71.2 as any stationary source belonging to a single major industrial grouping that directly emits, or has the potential to emit, 100 tons per year or more of any criteria pollutant. Since CS#5

has the potential to emit greater than 100 tons per year of NO<sub>x</sub> and CO, it is a major stationary source subject to Title V.

### **(B) New Source Performance Standards (NSPS)**

EU 001 and EU 003 each have a heat input at peak load equal to or greater than 10.7 gigajoules per hour based on the lower heating value of the fuel fired. Additionally, each unit was constructed and/or has been modified after October 3, 1977. According to section 60.330(a) and (b), and based on these conditions, both units are subject to Title 40 Part 60, Subpart GG.

#### **1. NSPS SO<sub>2</sub> emission limit**

The Permittee has elected to comply with 40 C.F.R. § 60.333(b), "... No owner or operator subject to provisions of this subpart shall burn in any stationary gas turbine any fuel which contains sulfur in excess of 0.8% by weight."

#### **2. NSPS Subpart GG Custom Fuel Monitoring**

On November 20, 1998, Great Lakes obtained EPA approval to implement a custom fuel monitoring plan for EU 002, in accordance with 40 C.F.R. § 60.334(i)(3). The custom plan was used in place of the sulfur monitoring requirements contained in section 60.334(i)(2). Under the plan, EPA waived the sulfur monitoring requirement as long as the facility used pipeline quality natural gas. However, on February 24, 2006, EPA updated 40 C.F.R. Part 60, Subpart GG. 40 C.F.R. § 60.334(h)(3) provides that an owner/operator may elect not to monitor total sulfur content, regardless of whether an existing custom schedule approved by EPA requires such monitoring, provided that the owner/operator of the turbine demonstrates that the gaseous fuel meets the definition of natural gas in 40 C.F.R. § 60.331(u). Great Lakes has chosen to make this demonstration using a current, valid purchase contract, tariff sheet or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20.0 grains/100 scf or less. Therefore, EPA is removing the custom fuel monitoring plan requirements from the permit.

#### **3. NSPS NO<sub>x</sub> emission limit**

Great Lake has elected to comply with 40 C.F.R. § 60.332(a)(2), "No owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any stationary gas turbine, any gases which contain nitrogen oxides in excess of:

$$STD = 0.0150 \frac{(14.4)}{Y} + F$$

where:

STD = allowable ISO corrected (if required as given in §60.335(b)(1))  
NO<sub>x</sub> emission concentration (percent by volume at 15 percent oxygen and  
on a dry basis),

Y = manufacturer's rated heat rate at manufacturer's rated peak load  
(kilojoules per watt hour), or actual measured heat rate based on lower  
heating value of fuel as measured at actual peak load for the facility. The  
value of Y shall not exceed 14.4 kilojoules per watt hour, and

F = NO<sub>x</sub> emission allowance for fuel-bound nitrogen as defined in  
paragraph 40 C.F.R. § 60.332 (a)(4)."

Note: Subpart GG--STANDARDS OF PERFORMANCE FOR STATIONARY  
GAS TURBINES was modified on February 24, 2006 and Subpart A--  
GENERAL PROVISIONS was modified on May 16, 2007 which resulted in  
changes in permit requirements in this permit in comparison to the June 30, 2005,  
Title V permit.

### **(C) PSD Permitting**

This permit incorporates the requirements of the June 30, 2005 PSD permit 9PSD-FDL-  
R50001-04-01). Great Lakes has not undergone any construction activities that would  
have triggered PSD in the last 5 years.

